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EXAMINER	
SCHWARTZ, JORDAN MARC	

ART UNIT	PAPER NUMBER
2873	

NOTIFICATION DATE	DELIVERY MODE
09/14/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/517,824

Applicant(s)

MASCHEK, HUBERTUS

Examiner

Jordan M. Schwartz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 50-70 is/are pending in the application.
- 4a) Of the above claim(s) 51 and 67-69 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 50,52,53,56-60,62-65 and 70 is/are rejected.
- 7) ☒ Claim(s) 54,55,61 and 66 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Specification

The following guidelines illustrate the preferred layout and content for patent applications. These guidelines are suggested for the applicant's use. The following section headings are preferably used within the specification where appropriate and each of the numbered items should appear in upper case, without underlining or bold type, as section headings.

1. Background of the Invention.
2. Summary of the Invention.
3. Brief Description of the Drawings.
4. Detailed Description of the Preferred Embodiments.

Claim Objections

Claims 50, 55, 66, and 70 (and their respective dependent claims) are objected to for the following reasons. Since the intended meaning could be determined from what is set forth in the specification and Figures, 112 rejections were not made but instead these lack of clarity issues are being raised in the following objections.

With respect to claims 50 and 70, the claimed "relative to the incident light" lacks an antecedent basis and therefore creates a lack of clarity. As a suggestion, applicant may want to claim "a focusing optical device including a lens for focusing incident light" (which is the assumed meaning for purposes of examination) to provide the necessary antecedent basis for applicant's later reference to "the incident light".

With respect to claim 55, the claimed "at least one of said aperture is" (singular) should be corrected "at least one of said apertures are" (plural) for clarity.

With respect to claim 66, the claimed “wherein the light disposal element deflects or absorbs extraneous light” creates a lack of clarity since claim 50, from which this claim depends is now claiming “absorbing” and not “deflecting and/or absorbing”. It is suggested that “deflects or” be deleted i.e. claiming “wherein the light disposal element absorbs extraneous light” (which is the assumed meaning for purposes of examination) to provide the necessary clarity.

Claim Rejections - 35 USC § 112

Claim 65 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 65, the claimed “has an opening in the size of the diaphragm aperture or larger” renders the claim vague and indefinite. It is not known what is meant by this limitation. For purposes of examination this limitation has not been given patentable weight and it is suggested that it be deleted for clarity.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 50, 52, 57, and 70 rejected under 35 U.S.C. 102(b) as being anticipated by Silhengst et al patent number 6,249,375.

Silhengst reads on these claims by disclosing the limitations therein including the following: a device or method for contrast enhancement for display devices (title, column 1, lines 5-24 re "display" and the abstract, as to the contrast enhancement re "no phantom light is generated"); a focusing optical device including a lens for focusing incident light (Figure 3, element "2" as the focusing optical element, column 3, line 40, column 4, line 55 and the incident light coming from the LED "1" with the light going from right to left or Figure 4, element "3" as the focusing optical element, column 4, lines 65-67 and the incident light coming from outside of the optical system with the light going from left to right); a diaphragm with at least one aperture arranged, relative to the incident light, behind the lens (Figure 3, "10", column 4, line 55 with the light going from right to left or Figure 4, "10", column 4, lines 65-67 with the light going from left to right); a light disposal element for absorbing light relative to the incident light behind the diaphragm (Figure 3, the portion of the structure to the left of the diaphragm "10" which includes the housing and wall "4" and the disclosed cavity, and abstract and column 4, lines 11-15 re the wall "4" as "light absorbing" with the light going from right to left or Figure 4, the portion of the structure to the right of the diaphragm "10" which includes the housing and wall "4" and the disclosed cavity, and abstract and column 4, lines 11-15 re the wall "4" as "light absorbing" with the light going from left to right); the device arranged so that light is focused and directed through the aperture to the light disposal element for absorbing extra light (Figure 3 column 4, lines 11-65, with the incident light

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coming from LED "1", passing through focusing lens "2", diaphragm "10" and extra light being absorbed by the wall of housing "4" with the light going from right to left or Figure 4, incident light coming from the outside of the system on the left, passing through focusing lens "3", diaphragm "10" and extra light being absorbed by the wall of the housing "4" with the light going from left to right). Silhengst further discloses an absorbing cavity arranged behind the diaphragm (Figure 3, column 4, lines 11-15, the portion of the structure to the left of the diaphragm "10" which includes the disclosed cavity and the wall "4" of the cavity as "light absorbing" or Figure 4, column 4, lines 11-15, the portion of the structure to the right of the diaphragm "10" which includes the disclosed cavity and the wall "4" of the cavity as "light absorbing"); the focusing optical device as an elongate lens (Figure 3 re lens "2" or Figure 4, lens "3"); and the diaphragm as a slit diaphragm (Figures 3 or 4, "10" with the opening as a "slit").

Claims 50, 52-53, 56-57, 59-60, 62-63, 65 and 70 rejected under 35 U.S.C. 102(b) as being anticipated by Takahara et al patent number 6,331,878.

Takahara reads on these claims by disclosing the limitations therein including the following: a device for method for contrast enhancement for display devices (Figure 51, column 1, lines 11-21, column 51, lines 50-55); a focusing optical device including a lens for focusing incident light (Figure 51, column 47, line 11, lenses "519" with the incident light coming from lamp "211a"); a diaphragm with at least one aperture arranged relative to the incident light behind the lens (Figure 51, column 49, lines 7-11, element "516"); a light disposal element for absorbing light arranged, relative to the incident light, behind the diaphragm (Figures 5A and 51, column 12, line 66 to column

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13, line 4, element "24" that includes light absorbing structure "51"); the device arranged so that light is focused and directed through the aperture to the light disposal element for absorbing extra light (Figure 51). Takahara further discloses an absorbing cavity arranged behind the diaphragm (Figure 51, column 51, line 21, substrate "24" which can be considered as a "cavity"); several diaphragms arranged adjacent to each other directing light to plural apertures (Figure 51, "516" as several diaphragms with several openings); the focusing optical devices corresponding in number to the several diaphragms and arranged in a regular pattern (Figure 51, the plural lenses "519" as the "plural focusing optical devices"); the focusing optical device as an elongate lens (Figure 51, each of the lenses "519" elongate in structure); the diaphragm as a slit diaphragm (Figure 519, each of the openings of "516" as "slits"); a light source arranged between the focusing optical element and diaphragm ((Figure 51, "521A", column 47, line 57); a lens used for the focusing the light emitted from the light source (Figure 51, lens "511A" focuses all of the light including the "emitted light from the light source"); the a display element viewable by a viewer (column 1, lines 11-21); and the light source adjacent to the diaphragm and "sheet-like" (Figure 51 with light source "521A adjacent to diaphragm "516 and flat i.e. "sheet-like"). It is believed that the light source will inherently passively reflect light, this being reasonably based upon Figure 51 disclosing additional light entering the lenses "520 which include the light source and therefore the light sources will inherently reflect some of this light.

Claims 50, 52, 57-58, and 70 rejected under 35 U.S.C. 102(e) as being anticipated by Amanai et al publication number 2003/0034935.

Amanai reads on these claims by disclosing the limitations therein including the following: a device or method for contrast enhancement for display devices (abstract, paragraphs 0055 and 0080); a focusing optical element including a lens for focusing incident light (Figure 17, element "57", paragraph 0229 with the incident light coming from outside of the system on the left and moving left to right); a diaphragm with at least one aperture arranged, relative to the incident light, behind the lens (Figure 17, element "14", paragraph 0229); a light disposal element for absorbing light arranged, relative the incident light, behind the diaphragm (Figure 17, element "3" or "4", paragraph 0219); the device arranged so that light is focused and directed through the aperture to the light disposal element for absorbing extra light (Figure 17). Amanai further discloses the light disposal element comprising a cavity (Figure 17 in which the interior of each of the prisms "3" or "4" can be considered as "a cavity"); focusing optical device as an elongate lens (Figure 17 re lens "57" disclosed as "elongate"); the diaphragm as a slit diaphragm (Figure 17, "14" with the opening as a "slit"); and the focusing optical element separated from the diaphragm by an adjustable distance (Figure 17, paragraph 0229).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claim 64 is rejected under 35 U.S.C. 103(a) as being unpatentable over Amanai et al in view of Noguchi et al publication number 2006/0152806.

Amanai discloses as is set forth above but does not specifically disclose the diaphragm as a liquid crystal element. Noguchi teaches that in optical devices using diaphragms for limiting light, that it is desirable to use a liquid crystal element for the purpose of providing an improved means of controlling the amount of light flux (Figures 1 and 21, paragraph 0105-0106). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the light limiting element of Amanai as a liquid crystal diaphragm element since Noguchi teaches that in optical devices using diaphragms for limiting light, that it is desirable to use a liquid crystal element for the purpose of providing an improved means of controlling the amount of light flux.

Response to Arguments

Applicant's arguments filed July 3, 2007 have been fully considered but they are not persuasive.

With respect to the Silhengst reference, applicant argues that Silhengst distinguishes from the claimed invention in that incident light from the outside at an angle equal to or greater than a limit angle is completely blocked and light incident at a smaller angle than the limit angle is not blocked and that the present invention focuses light regardless of its angle of incidence. However, applicant is arguing a limitation that is not being claimed. None of the limitations of applicant's claims are directed to the angle of incident light and to either blocking or not blocking light at certain incident

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angles. Instead, in the independent claims, applicant is broadly claiming the focusing of the incident light through a lens, the diaphragm behind the lens, and the light disposal element behind the diaphragm for absorbing extra light. Silhengst clearly discloses all of these claimed limitations and therefore clearly reads on the claimed invention.

With respect to the Takahara et al reference, applicant argues that Takahara is distinguished from the present invention in that Takahara only absorbs the secondary diffusion or scattered light. Again, applicant is arguing a limitation that has not been claimed. The independent claims are broadly claiming "absorbing extra light". Scattered light and secondary diffused light are clearly extra light. Takahara et al discloses all of the claimed limitations (of those claims rejected above under 35 USC 102) and therefore reads on the claimed invention.

With respect to the Amanai reference, applicant first argues that the reference does not disclose a diaphragm with at least one aperture and a light disposal element for absorbing light being arranged one after the other. By "one after the other", it is not clear if applicant is arguing that the reference does not disclose the diaphragm and the light disposal element behind it with no optical elements between them but again this would be arguing a limitation that has not been claimed. Applicant is broadly claiming the light disposal element "relative to the incident light, behind the diaphragm". Amanai discloses the diaphragm with at least one aperture (Figure 17, element "14", paragraph 229) and the light disposal element for absorbing light (Figure 17, element "3" or "4", paragraph 219). As seen in Figure 17, the incident light is moving from left to right and therefore the light disposal element is clearly "relative to the incident light, behind the

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diaphragm". Applicant further argues that the reference is silent as to whether incident light is focused regardless of its angle of incidence. Again, similar to what is stated above in the arguments concerning the Silhengst reference, applicant is arguing a limitation that has not been claimed. None of the limitations of applicant's claims are directed to the angle of incident light and to either blocking or not blocking light at certain incident angles.

With respect to the Sannohe reference applicant, applicant again argues that the reference is silent as to whether incident light is focused regardless of its angle of incidence, again arguing a limitation that has not been claimed. However, applicant further argues that the reference does not disclose the light disposal element for absorbing extra light. Based upon the amendments to claims 50 and 70, this latter argument is persuasive and the Sannohe rejection has therefore been overcome.

For applicant's information, the Nishimae reference cited in the prior office action is no longer applicable based upon applicant's amendments to independent claims 50 and 70 i.e. "absorbing extra light".

For applicant's further information, the request for subject headings in the specification was raised in the prior office and was not addressed and therefore has been raised again. For applicant's further information, the 112 rejection of claim 65 was raised in the prior office action and was not addressed and has therefore been raised again.

Allowable Subject Matter

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Claims 54-55, 61 and 66 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: with respect to the allowable subject matter, none of the prior art either alone or in combination disclose or teach of the claimed combination of limitations to warrant a rejection under 35 USC 102 or 103. Specifically, with reference to claims 54-55, none of the prior art either alone or in combination, disclose or teach of the claimed device for contrast enhancement for display devices specifically including, as the distinguishing features in combination with the other limitations, the claimed absorbing cavity arranged behind the diaphragm, several diaphragms arranged adjacent to each other directing light to plural apertures, and the diaphragms and/or apertures having different sizes. Specifically, with reference to claim 61, none of the prior art either alone or in combination, disclose or teach of the claimed device for contrast enhancement for display devices specifically including, as the distinguishing features in combination with the other limitations, at least one light source between the focusing optical element and the diaphragm, a lens used for focusing the emitted light from the light source, and the at least one light source arranged beside this focusing lens. Specifically, with reference to claim 66, none of the prior art either alone or in combination, disclose or teach of the claimed device for contrast enhancement for display devices specifically including, as the distinguishing features in combination with the other limitations, the angle of

incidence of the extraneous light being determined with the aid of sensors to facilitate adjustment of the position of the diaphragm, the size of the aperture and/or its position.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jordan M. Schwartz whose telephone number is (571) 272-2337. The examiner can normally be reached on Monday to Friday from 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on (571) 272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jordan M. Schwartz
Primary Examiner
Art Unit 2873
September 4, 2007